OBITUARY: CHARLES TANNER, HERPETOLOGIST. *Memoirs of the Queensland Museum 42(1): 377. 1997*:- Conversations with herpetologists suggest that some of us are 'born' and some are 'made'. Charles Tanner (born 19 January, 1911, Brighton, England; died 23 December, 1996, Cairns, Australia) was definitely one of the former. Amongst his earliest memories were those of days spent 'haunting' the reptile house of London Zoo. Wherever he was — the United Kingdom, Iraq (Abadan), Palestine, Cyprus, the United States of America, Papua New Guinea, or Australia (from Tasmania to Cape York and Byron Bay to Carnarvon) — he observed, admired, photographed and collected reptiles, and wrote and talked about them. They were a life-long obsession.

Charles Tanner's contributions to knowledge of Australia's reptiles were substantial. He had long affiliations with the Museum of Victoria, Melbourne, and the Queensland Museum, Brisbane. He was an Honorary Associate of the former from 1953 until his death. His collections for that museum included 522 frog and 573 reptile specimens. Many of these were collected on his annual leave. Each year, for many years, he and one of us (AJC) travelled to herpetologically unknown or poorly known sites, Australia-wide. His knowledge of, and enthusiasm for finding frogs and reptiles was a never-ending source of astonishment. In 1955, he and Charles Brazenor (then Assistant Director of the MOV), collected the first specimens of *Philoria frosti* Spencer 1901 (a rare frog, narrowly confined to Mt Baw Baw, Victoria) seen since collection of the holotype of the species. On New Year Island, Bass Strait, in 1953 and 1954, he photographed Black Tiger Snake, *Notechis ater*, and Shearwater, *Puffinus tenuirostris* interactions. Only one of these photographs has been published (Worrell, 1963). The rest are now part of his estate, hopefully to be lodged in a museum for posterity.

His association with the Queensland Museum began in 1968. His last donations were made in 1990. Between 1968 and 1990, Charles Tanner donated 302 frog, 548 reptile and 42 mammal specimens to the Queensland Museum. Amongst them are type specimens on which descriptions of many new species were based: *Cophixalus saxatilis* Zweifel & Parker, 1977; *Carlia dogare* Covacevich & Ingram, 1975; *C. jarnoldae* Covacevich & Ingram, 1975; *C. scirtetis* Ingram & Covacevich, 1980; *Ctenotus astarte* Czechura, 1986; *C. nullum* Ingram & Czechura, 1990; *Cryptoblepharus fuhni*, Ingram & Covacevich, 1978; *Lerista ingrami* Storr, 1991; and *Leggadina lakedownensis* Watts, 1976 (possibly a junior synonym of *L. forresti*). Tanner's special interests lay not in description and nomenclature, which he was content to leave to others, but discovering new taxa. Recognition of a new species, collection of specimens, their careful preservation and lodgement in a museum were the parts of a taxonomist's job that he relished. Through this, he encouraged the work and careers of several taxonomists.

FIG. 1. Charles Tanner (left) capturing a specimen of *O. microlepidotus* on the Morney Plain near Windorah, SWQ. The sequence was filmed by Vic Martin, 1974. (Photo JAC).

Elapids dominated Tanner's research interests and, to a certain extent, his life. For many years he kept a wide-range of species as treasured 'pets'. Between the early 1960s and 1985, he 'milked' specimens in his collection daily on behalf of the Commonwealth Serum Laboratories (now CSL Ltd), Melbourne, the sole producer of antivenoms in Australia. From his dried venom supplies was made much of the antivenom produced in Australia. Many of the survivors of potentially life-threatening envenomations in Tanner's 'production time' owe their lives, in no small part, to work conducted at his snake farm-laboratory near Cooktown. His venoms were always of the highest quality and were used also in many research projects. His collaborations with Allen Broad of CSL were especially rewarding. The most exciting venom studied was that of *Oxyuranus microlepidotus*. In 1979 this venom was shown to be the most toxic snake venom in the world. Further investigations showed that it was neutralised effectively by existing Taipan (*Oxyuranus scutellatus*) anti-venom (Sutherland et al., 1978; Broad et al, 1979a,b). Venoms collected by Charles Tanner now form a valuable part of the National Collection of Venoms held by the Australian Venom Research Unit of the Department of Pharmacology, The University of Melbourne.

Many of his captive snakes had long and very productive lives in and, sometimes, on! his hands. Tanner survived many life-threatening bites. About them he was reluctant to talk, unlike many victims of snakebite (Pearn, 1990; Pearn et al., 1994). He invariably regarded herpetologists bitten as silly, not brave. '*Aggression is not a word I would apply to any snake ...*', he would say. In 1979, following massive envenomation by a Taipan (*Oxyuranus scutellatus*), Tanner was fortunate to receive the full premedication recommended by CSL. The infusion of antivenom was uneventful and the patient described as miraculous the return of strength to his limbs and the disappearance of his severe headache. '*Like mother's milk*' was his description of his therapy. Steroid therapy followed for the next four days, because of his special vulnerability to delayed serum sickness. Tanner recovered uneventfully.

Charles Tanner's expert elapid husbandry involved the design and development of several 'safe' methods and tools of trade, all of which are still in use by those who follow him. Amongst these are the 'potato-masher' jigger and the hoop bags of plastic and calico for 'tailing' specimens of several species, including Taipans; hide boxes with trap doors; and the use of strong, opaque plastic bag from which the largest elapid could be milked with relative safety. All minimised discomfort for the snake and maximised safety for the handler.

Tanner figured in the immunological literature as a result of his work with the large elapids. Following many bites, he had become highly allergic to CSL antivenom. For this reason, Dr Saul Wiener undertook active immunisation of Tanner with Tiger Snake (*Notechis scutatus*) venom in 1959. Wiener (1960) successfully immunised Charles Tanner through 24 injections of Tiger Snake venom over 13 months. This protection was transitory. Thereafter, Tanner rightly became apprehensive about antivenom therapy.

All elapids intrigued Tanner, but Taipans, *Oxyuranus* spp., intrigued him most. Perhaps his greatest excitement and contribution was catching the first live specimen seen by researchers of the snake now known as the Western Taipan, *Oxyuranus microlepidotus* (McCoy, 1879). Soon after his close association with the Museum of Victoria began, he read the description (1879) of *Diemenia microlepidota* and examined the two type specimens of this species in the (then)

FIG. 2. The first 'milking' of a specimen of *O. microlepidotus*, by Charles Tanner, 1974. (Photo JAC).

National Museum of Victoria. Many years later, following receipt of a preserved head/tail of this species at the Queensland Museum, he and one of us (JAC) relocated this long-lost species in south western Queensland. Charles Tanner caught his and the world's first live specimen in Spring, 1974, near Windorah, SWQ (Fig. 1.). In one week he collected 13 large, healthy specimens which formed the nucleus of a collection on which an extensive research programme was based. From study of those specimens and their progeny, a series of papers was published on *O. microlepidotus*. Over some 20 years, the least well-known elapid species in Australia became probably its best known (Covacevich & Wombey, 1976; Sutherland et al., 1978; Covacevich et al., 1981; Shine & Covacevich, 1983; Covacevich & Tanner, 1983; Broad et al., 1979b; Morrison et al., 1984; Covacevich, 1987; Covacevich, 1990; Covacevich, 1994).

In the Australian Venom Research Unit, Department of Pharmacology, the University of Melbourne, a study to examine the antibodies to snake venom components and antivenoms in the sera of herpetologists is underway. Charles Tanner had a particular interest in this project. He had not only two types of antibodies to eight different venom proteins, but also antibodies to the principle protein in antivenom. Thus, as his and the other sera continue to be explored, his contributions to medical research will continue! (Fig. 2.).

Two species have been named to recognise his many contributions to herpetology: *Pseudonaja affinis tanneri* (Worrell, 1961), *Lygisaurus tanneri* Ingram & Covacevich, 1988.

In addition to his contributions to toxinology and herpetological taxonomy, Charles Tanner will be remembered for his wisdom and for the generous way he shared his knowledge with both amateur and professional herpetologists. He will also be remembered for his dry sense of humour. Nothing encapulates his wit and humour so well as a conversation he had with one of us (JAC) in 1993. It went: JAC: '*Charles, how are you?* CT: *Fine thanks, except that my memory, especially my short-term memory, is shot to pieces.* JAC: *Hell. I'm sorry. That must be difficult for you.* CT: *It would be, if I could remember anything to worry about*'. The words on a memorial erected on his former farm near Cooktown summarize: '*Passionate about the natural world (especially reptiles!), he contributed significantly in the fields of taxonomy and toxinology, and to knowledge of the natural history of turtles, crocodiles and elapid snakes. Adventurous, generous of spirit, witty, intelligent, and ruggedly individualistic, he was admired and respected by many. Remembered well by his friends and colleagues.*

Alis volat propriis
(He flies on his own wings).'

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